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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/702,444	11/07/2003	Gerrick S. Gehner	08350.1644-02	9713

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EXAMINER	
RAEVIS, ROBERT R	

ART UNIT	PAPER NUMBER
2856	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/702,444	GEHNER ET AL.	
	Examiner	Art Unit	
	Robert R. Raevis	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8-17 and 22-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-17 and 22-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1,2,3,4,5,6,8,26,28,9,14,15,12,17,27,29,22,23,25,30,31,32,33,34,35 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamasaki et al.

As to claims 1,4,6,8,26,9,17,27,30,32,34, Yamasaki et al teach method to mix two streams, including (Fig. 1): introducing a first DILUTION AIR stream via stream passages in rectifying plate 13 into a mix chamber; directing a second stream via line 4; combining the streams; discharging the streams via port 7. The rectifying plate allows for a developed outlet flow, as does flow within tube 4.

As to claim 2, note orifice 7.

As to claim 3, note the nozzles 10 with a single source 19, col. 4, line 40-50.

As to claim 5, note the long passageway 5.

As to claims 28,29, element between elements 7 and 13 is formed to provide the mixing chamber.

As to claim 12, note volume 5, which includes flanges on the far right hand side that's connected to additional volumes.

As to claim 27, the streams at region 12 and 4 are not impinging.

As to claim 30, the mixing chamber is initially produced (made) ("providing", line 4 from last of claim 30) without extending structure.

As to claim 32, note that Yamasaki samples and tests the diluted gas (col. 1, line 9), and that the rectifier provides for developed flow upstream of the exhaust outlet 4.

As to claim 34, note that Yamasaki samples and tests the diluted gas (col. 1, line 9), and that any sampling.

As to claim 22,23,31,32,34,35,9,14,Yamasaki's Figure 1 may be applied in a different manner, as follows:

Yamasaki's mixing chamber includes: a volume 5 with first (region of 7) and second (right hand side) ends; inlet opening 7 that receives a first stream (form pipe 4) and plurality of symmetrically oriented second openings (ends of nozzles 10) that receive a second stream of gas from source 19; an exit at the right hand of volume 5 that converges. The streams are unobstructed by structure extending into the mixing chamber (region between opening 7 and outlet).

As to claim 25, the streams from pipe 4 and nozzles 10 do not directly contact each other as they are spaced apart.

As to claim 32, dilution gas is receives at one end of the mixing chamber 5, and the mixing chamber received the exhaust gas from either the exit of pipe 4 or passage 7. Also, plate 13 allows for a well-developed flow. As to claim 33, note the lack of structure in chamber 5.

As to claim 34, note that Yamasaki samples and tests the diluted gas (col. 1, line 9), and that any sampling.

As to claim 14, note the lack of projections in chamber 5.

As to claim 15, note plurality of passages of the first stream (DILUTION AIR) due to plate 13, the seconding plurality of passages (nozzles 4) from the single source 19

defing second stream manifold, and that the first and second plurality of passages do not extend into mixing chamber 5.

Claims 1,2,3,4,5,6,8,26,28,9,14,15,10,12,13,17,27,29,32,33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamasaki et al in view of Iwanaga et al.

As to claims 1,4,6,8,26,9,17,27,32, Iwanaga teaches that a rectifying plate (line plate 13 of Yamasaki) has passages, or in the alternative, it would have been obvious to employ Iwanaga's plate as Yamasdaki calls for a rectifying plate.

As to claim 2, note orifice 7.

As to claim 3, note the nozzles 10 with a single source 19, col. 4, line 40-50.

As to claim 5, note the long passageway 5.

As to claims 28,29, element between elements 7 and 13 is formed to provide the mixing chamber.

As to claim 10, it is known to apply a mixing orifice 7 with a curved interior to either promote mixing or a smooth flow.

As to claim 12, note volume 5, which includes flanges on the far right hand side that's connected to additional volumes.

As to claim 13, Yamasaki's mixing system suggests use of steel to allow for an inert and fluidly secure system.

As to claim 32,33, note that Yamasaki samples and tests the diluted gas (col. 1, line 9), and that the rectifier provides for developed flow upstream of the exhaust outlet 4.

As to claim 14, note the lack of projections in chamber 5.

As to claim 15, note plurality of passages of the first stream (DILUTION AIR) due to plate 13, the seconding plurality of passages (nozzles 4) from the single source 19 defing second stream manifold, and that the first and second plurality of passages do not extend into mixing chamber 5.

Claims 24,30,34,35,16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamasaki et al.

As to claim 24, Yamasaki's mixing system suggest use of steel to allow for an inert and fluidly secure system

As to claim 30, it would have been obvious to separately make elements 4 and mixing chamber, and subsequently assemble them, as an effective technique to form the apparatus from off the shelf components. Note that those elements are then provided ("providing" on line 4 from last of claim 30).

As to claim 34,35, it would have been obvious to sample mixture from the mixing chamber, as Yamasaki teaches sampling/testing the diluted gas, as gas is diluted at that location.

As to claim 16, Yamasaki's plurality of nozzles connected to a single gas source 19 (col. 4, lines 40-45) demands a manifold, but not necessarily one with an annular chamber. As to claim 16, it is known to apply annular manifold to introduce fluid from one line into another to permit for efficient fluid flow.

Claim11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamasaki et al in view of Hanashiro et al.

As to claim 11, it would have been obvious to employ insulating in Yamasaki as Hanashiro teaches use of a heater 82 to preserve the condition of a sample in a dilution tunnel sampler. Use of a heater is suggestive of use of insulation to preserve heat.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert R. Raevis whose telephone number is 571-272-2204. The examiner can normally be reached on Monday to Friday from 5:30am to 3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RAEVIS

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